



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,126	04/24/2001	Toshiya Ohtake	P 280253 T4SS-00S1406-1	2650

909 7590 04/07/2003

PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

LUK, OLIVIA T

ART UNIT PAPER NUMBER

2812

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,126

Applicant(s)

OHTAKE ET AL.

Examiner

Olivia T Luk

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claim 1 objected to because of the following informalities: In line 2, "fist" should be "first".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Omae et al. (5,570,215).

In re claim 1, Omae et al. disclose a polarization plate having a first average refractive index for a direction perpendicular to a display plane and a second average refractive index in a direction parallel to the display plane (col. 20, lines 5-40); a phase difference plate having a first average refractive index for a direction perpendicular to the display plane and a second average refractive index for a direction parallel to the display plane (col. 20, lines 5-40); a liquid crystal layer having a first average refractive index for a direction perpendicular to the display plane and a second average refractive index for a direction parallel to the display plane (col. 20, lines 5-40);

Art Unit: 2812

and a selectively reflective layer for reflecting part or whole of circularly polarized light in a specific direction, the selectively reflective layer having a first average refractive index for a direction perpendicular to the display plane and a second average refractive index for a direction parallel to the display plane (col. 20, lines 5-40); the polarization plate, phase difference plate, liquid crystal layer, and selectively reflective layer being formed so that the absolute value of the sum total of the product of the thickness and the difference between the first and second average refractive indexes of the polarization plate, the product of the thickness and the difference between the first and second average refractive indexes of the phase difference plate, the product of the thickness and the difference between the first and second average refractive indexes of the liquid crystal layer, and the product of the thickness and the difference between the first and second average refractive indexes of the selectively reflective layer is 50 nm or less (col. 20, lines 5-40).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omae et al. in view of (Manabe et al. (6,411,355 B1).

In re claim 2, Omae et al. are applied supra but fail to disclose the selectively reflective layer is formed of one or a plurality of layers of a cholesteric liquid crystal, and one or

more layers having positive refractive index anisotropy are arranged adjacent to the selectively reflective layer or with one or more organic layers being interposed therebetween. Manabe et al. teach one or a plurality of layers of a cholesteric liquid crystal with one or more organic layers being interposed therebetween (col. 9, lines 33-38). It would have been obvious to one having ordinary skill in the art to use these layers in the Omae et al. invention because the use of optical anisotropy is well known in the art and used in the Manabe et al. invention as well.

In re claim 3, Omae et al. are applied supra but fail to disclose at least one of said layers having positive refractive index anisotropy is formed of a discotic liquid crystal. Manabe et al. teach a layer of discotic liquid crystal. It would have been obvious to one having ordinary skill in the art to use these layers in the Omae et al. invention because the use of optical anisotropy is well known in the art and used in the Manabe et al. invention as well.

In re claim 4, Omae et al. disclose at least one of said layers having positive refractive index anisotropy includes a reflective layer for reflecting specifically polarized light, light in a specific wavelength zone, or specifically polarized light in a specific wavelength zone only, out of incident light (col. 4, lines 55-60).

In re claim 5, Omae et al. disclose a polarization plate; a phase difference plate; a liquid crystal layer; and a selectively reflective layer, the selectively reflective layer including one or more reflective layers for reflecting specifically polarized light, light in a specific wavelength zone, or specifically polarized light in a specific wavelength zone only, out of incident light, the one or more reflective layers having positive refractive index anisotropy as a whole (col. 20, lines 5-40).

Conclusion

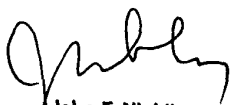
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References not applied are considered state of the art in the area of semiconductor manufacture.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olivia T Luk whose telephone number is 703-305-3420. The examiner can normally be reached on 7AM to 4PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 703-308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

OTL
April 2, 2003


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800